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(54) Title: PROCESS CONTROL BASED ON ANALYSIS OF MICROBIAL POPULATIONS

(57) **Abstract:** The present invention relates to determining environmental conditions for the purpose of process control by means of microorganisms. The present invention makes use of the principle that changes in the composition of a microbial population after applying an external stimulus are characteristic of the nature of the stimulus received by the microbial population. By measuring these changes, the composition of the microbial population can be used as a specific sensor to determine the physical chemical environmental conditions, to determine the extent of change in this environmental condition, to determine the nature and intensity of the stimulus, and to be able to measure the effects of different stimuli on various processes and thus control these processes.

WO 2004/053147 A1